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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PUBLIC ROADS
DIVISION OF AGRICULTURAL ENGINEERING

S. H. McCrory, Chief

# MONTHLY NEWS LETTER

Washington, July 20, 1930

R. G. Hemphill passed away June 19 at the home of his mother in Abbeville, S.C., about a week after his arrival there from San Antonio. Mr. Hemphill had been connected with this Division for about 24 years. He was appointed an Agent June 1, 1906, and was assigned to duty in Colorado, where he made an extended study of water rights and stream diversions in the San Luis Valley, and prepared a detailed report on his work there. About 1914 he was assigned to work at Fort Collins and made studies of storage reservoirs in northern Colorado for the purpose of determining the feasibility of reservoir efficiencies. In 1915, Mr. Hemphill began an extended study of the Use of Water in the Poudre Valley, the results of which have been published as U.S.D.A. Bulletin 1026. Mr. Hemphill was later assigned to the project of determining the extent of the seepage return to the South Platte River. In June, 1920, he was transferred to Texas, to take charge of the cooperative work of this office in that State. While in charge of the Texas work of the Division, Mr. Hemphill gained the confidence and respect of all those with whom he came in official contact. Inquiries on many irrigation and drainage problems were referred to him by the Agricultural and Mechanical College and by the Board of Water Engineers. At the time of his death he was just completing a five-year research study of silt carried by Texas streams and its relation to the life of reservoirs. Many new and economically important data have been secured from this investigation. Duty of water studies, investigations of seepage losses from canals, and many other problems had received attention during the ten years Mr. Hemphill had been working in Texas. The esteem in which Mr. Hemphill was held by those who came in contact with him in line of duty is expressed in the following comments of one of the members of the Division who was most closely associated with him some years ago:

> "My immediate contact with Mr. Hemphill in our investigational work permitted me to know of his many fine qualities. He always displayed an ambition to do his work exceedingly well, and was accurate to a fault. In carrying on field work, Mr. Hemphill never complained of trying conditions in order to favor himself because of his physical weakness, but accepted them as a part of the day's work."

The Texas Board of Water Engineers, as a personal tribute to Mr. Hemphill, closed the office at Austin during the time of the funeral services.

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## Acceptance of Bids

Attention is called to Paragraph 73 of the Fiscal Regulations, which relates to acceptance of bids:

Bids or proposals can be accepted only by -

1. The Director of Purchase and Sales (Office of the Secretary)
2. The Forester, or a district forester previously authorized in writing by the Forester (limited to amounts not exceeding $1,000, or to $2,500 for supplies and equipment required exclusively for fire suppression).
3. The Chief of the Bureau of Public Roads, or a district engineer when previously authorized in writing by the Chief of Bureau (limited to amounts not exceeding $1,000, or $2,500 for road construction and maintenance).
4. An official in charge of an experiment station in Alaska, Hawaii, Porto Rico, the Virgin Islands, or the Island of Guam, when previously authorized in writing by the Secretary.

It is plain from the above that employees of the Division of Agricultural Engineering can not, under the law, accept bids. Without exception, bids must be forwarded to the Washington Office where they will be acted upon in accordance with the Fiscal Regulations. Serious results may follow disregard of these regulations.

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The following are the quarterly requisition numbers for the first quarter of the fiscal year 1931: Gasoline, oil and grease A. E. 34; repair and upkeep to motor vehicles and tractors, including garage rent, A.E. 35; repair of engineering equipment and office equipment, A.E. 36; miscellaneous field engineering equipment and supplies, A. E. 37.

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O.V.P. Stout and his assistant, Lloyd N. Brown, submitted their report on "Cooperative Irrigation Investigations in the Sacramento-San Joaquin Delta in 1929." This covers the results of experiments on sugar beet and asparagus plots on peat soils; also consumptive use of water by aquatic plants on sedimentary land of that area.

H.F. Blaney and Wells A. Hutchins, assisted by several men of Frank Adams' office, are gathering data from irrigation enterprises in California for the revision of Mr. Blaney's bulletin on Cost of Water to Irrigators in California (Bul. No. 8 of the State Department of Public Works.)

Carl Rohwer reached Berkeley July 10 and is to take some measurements of evaporation from East Park Reservoir of the Orland project.

George Clyde was appointed to assist L.T. Jessup on special investigations in the Kootenai area of Idaho in connection with international power application.

Contract was let for the last unit of the Bear Bay Migratory Bird Refuge of the Biological Survey, the engineering work for which is in immediate charge of L. M. Winsor.

Bids are being advertised for a small reservoir for the Central Great Plains Experiment Station of the Bureau of Plant Industry, to be constructed near Cheyenne this summer. Carl Rohwer is in charge of the engineering work on this reservoir.

R.B. Gray attended the A.S.A.E. meeting at Moline from July 16 to 19, inclusive, and the Case Company factories at Rockford, Ill. and Racine, Wisc., June 20 and 21, respectively. From there he visited the John Deere factory at Ottumwa, Iowa, and conferred on matters pertaining to corn borer control machinery. From there he proceeded to Independence, Mo., to view the corn combine and confer with officials of the company. He then met Mr. L. A. Jones at Guthrie, Okla. and observed the conditions to be met by tractors and machinery working over terraces. Messrs Jones and Gray then proceeded to Hays, Kans. and observed the operation over terraces of grain combines. On July 10 Mr. Gray attended a luncheon conference with farm machinery extension specialists from Ohio, Michigan, and Indiana on matters pertaining to cooperative work on corn borer control.

Messrs. Frank Irons, O.K. Hedden, and F.D. Fulton, of the Toledo office, and Thayer Cleaver, on cooperative work at Urbana, also attended the convention at Moline.

Mr. Frank Irons left July 8 for New England to make observations of conditions there relative to the control of the corn borer machinery and to start experimental work at the Berkley, Mass. Experiment and Development Farm.

L. A. Jones, C.E. Ramser, P.C. McGrew, F. O. Bartel, R. W. Baird, R. A. Norton, R.R. Drake, and H.S. Riesbol, attended a meeting of the Southwest soil and moisture conservation conference at Stillwater, Okla. on June 19 and 20. Messrs. Jones, Ramser, Baird, Norton and Drake delivered talks at the meeting relating to soil erosion experimental work. On the afternoon of the second day of the meeting an inspection was made of the Guthrie soil erosion experimental farm.

D. L. Yarnell has completed experiments to determine the shape of a slot in the side of the silt box designed to extract a proportional amount of the discharge over a weir at the outlet end of the box. The silt content of the extracted portion of the discharge will be determined from which the total amount of silt in the water discharged from the terrace channel can be computed. These boxes are being installed below the Parshall measuring flume and the work of completing the installation of this silt sampler will be started immediately on the Temple, Guthrie and Hays projects.

C. K. SHEDD ATTENDED THE ANNUAL MEETING OF THE A.S.A.E. AT MOLINE, ILL. ON JUNE 16 TO 19 AND PRESENTED A REPORT OF THE COMMITTEE OF EXTENSION.

R.R. DRAKE REPORTS THAT THE HARVESTING OF WHEAT ON THE HAYS FARM WAS COMPLETED DURING THE FIRST WEEK IN JULY. OBSERVATIONS MADE OF THE OPERATION OF A 20-FOOT HOLT COMBINE OVER TERRACES INDICATED THAT TERRACES INTERFERED VERY LITTLE WITH THE SATISFACTORY OPERATION OF THE COMBINE. THE WHEAT GROUND WAS LISTED DIRECTLY AFTER HARVESTING WITH A SIX-ROW LISTER WITHOUT REGARD TO TERRACES AND IT WAS FOUND THAT THE TERRACES CAUSED PRACTICALLY NO TROUBLE IN THE OPERATION OF THE LISTER.

THE OATS CROP ON THE GUTHRIE FARM, CONSISTING OF ABOUT 28.7 ACRES, WAS CUT AND THRESHED DURING THE LATTER PART OF JUNE. THE AVERAGE YIELD WAS 23.3 BUSHELS PER ACRE AND THE YIELDS FROM TWO COMPARABLE AREAS OF ERODED AND VIRGIN LAND WERE 10.6 AND 40.3 BUSHELS PER ACRE RESPECTIVELY, THE YIELD ON THE VIRGIN LAND BEING NEARLY FOUR TIMES THAT ON THE ERODED LAND. CONSIDERABLE DAMAGE WAS DONE TO THE OATS CROP ON A LEVEL-TERRACED AREA ON VIRGIN LAND WHERE ALL OF THE WATER WAS RETAINED. THE CROP IN THE TERRACE CHANNEL WAS DROWNED OUT AND FOR SOME DISTANCE ON BOTH SIDES OF THE TERRACE THE OATS CROP WAS DAMAGE. THE YIELD ON THIS AREA WAS 16.8 BUSHELS PER ACRE WHICH IS ONLY ABOUT 40 PER CENT OF THE YIELD OBTAINED ON ADJOINING VIRGIN LAND AND GRADED TERRACES.

R.A. NORTON HAS COMPLETED THE INSTALLATION OF NINE 1-FOOT PARSHALL MEASURING FLUMES AND THREE 2-FOOT FLUMES ON THE TEMPLE FARM, TEXAS; ALSO STEVENS WATER LEVEL RECORDERS AT EACH FLUME. SILT BOXES 10 FEET LONG, 5 FEET WIDE AND 3 FEET DEEP WERE INSTALLED BELOW EACH OF THE SMALLER FLUMES.

M. C. BETTS HAS PREPARED PLANS FOR A COMBINED LABORATORY AND STORAGE BUILDING TO BE ERECTED ON THE OLD FOUNDATION OF THE BUILDING DESTROYED BY FIRE LAST SPRING AT THE ARLINGTON EXPERIMENT FARM. PLANS HAVE ALSO BEEN MADE OF A HEADHOUSE 24 X 50 FEET IN SIZE FOR THE USE OF THE BUREAU OF PLANT INDUSTRY IN CONNECTION WITH EXPERIMENTS ON THE EFFECT OF LENGTH OF DAY ON PLANT GROWTH.

MR. BETTS IS REVISING THE ARTICLE BY M.A.R. KELLEY ON THE IMPROVEMENT OF OLD DAIRY BARNS IN SOUTHEASTERN PENNSYLVANIA FOR PUBLICATION AS A FARMERS' BULLETIN.

T.A.H. MILLER HAS RETURNED FROM A TRIP TO LOUISIANA WHERE, IN COMPANY WITH GEO. R. BOYD, HE VISITED VARIOUS SECTIONS OF THE STATE TO ESTABLISH METHODS OF APPRAISING FARM BUILDINGS IN THE FLOOD CONTROL AREA. BEFORE RETURNING MR. MILLER VISITED C.E. SEITZ AT BLACKSBURG, VA. AND CONFERRED WITH HIM REGARDING FARM BUILDINGS IN VIRGINIA.

CHAS. A. BENNETT MADE A TRIP TO GREENWOOD, MISS. EARLY THIS MONTH TO INSPECT THE CONSTRUCTION OF COTTON DRYING EQUIPMENT IN PROGRESS THERE. HE IS NOW IN THE WASHINGTON OFFICE ATTENDING TO MATTERS IN CONNECTION WITH INVESTIGATIONS OF COTTON GINNING EQUIPMENT.

W.R. HUMPHRIES IS COMPILING DATA OBTAINED DURING A RECENT FIELD INVESTIGATION OF THE USE OF POWER ON FARMS. THIS WORK IS BEING CONDUCTED IN COOPERATION WITH THE BUREAU OF AGRICULTURAL ECONOMICS.

THE WASHINGTON OFFICE FORCE WITH THEIR FAMILIES AND FRIENDS HAD A VERY ENJOYABLE PICNIC IN ROCK CREEK PARK ON SATURDAY AFTERNOON, JUNE 28.